CLAIMS

1. Radiator for heating the passenger compartment of a vehicle comprising at least a first fluid box (1) extending from a first front surface (F1) to a second front surface (F2) of the radiator along a longitudinal axis (A1) contained in a median plane (P) of the radiator, a heat exchanger bundle (3) extending approximately along said median plane (P) starting from the fluid box to exchange heat between a coolant circulating in the fluid box and an airflow passing through the bundle, a fluid inlet or outlet tubing (5) projecting from the end of the fluid box located in said first front surface (F1), characterised in that, starting from the first front surface (F1), said tubing (5) has a first part (5-1) inclined with respect to said longitudinal axis (A1) and/or eccentric with respect to said median plane (P).

2. Radiator according to claim 1, in which said first part (5-1) of the tubing is offset towards a first side of said median plane (P) so as to leave a planar surface (10) on the other side of this median plane in the first front surface (F1) to achieve airtight contact between the radiator and the heating unit box containing the radiator.

3. Radiator according to any one claims 1 and 2, in which said first part (5-1) of the tubing (5) is inclined with respect to said median plane.

4. Radiator according to claim 2, in which said first part of the tubing is inclined towards said first side of said median plane (P).

5. Radiator according to any one of the previous claims, in which said first part (6-1) of the tubing (6) is inclined with respect to the plane (P2) containing the longitudinal

axis (A2) of the fluid box (2) and orthogonal to said median plane (P).

6. Radiator according to any one of the previous claims, in which said first part (5-1) of the tubing (5) is connected by an elbow (5-3) to a second part (5-2) located on the same side as the fluid box (1) with respect to a boundary plane (P3) perpendicular to said longitudinal axis and tangential to said elbow (5-3).

7. Radiator according to claim 6, in which said second part (5-2) extends approximately perpendicular to said longitudinal axis (A1) and is also tangential to said boundary plane (P3).

8. Radiator according to claim 6, in which said second part (5-2) separates from said boundary plane (P3) starting from said elbow.

9. Radiator according to any one of claims 6 to 8, in which the following relations are respected:

$$\cos \beta \times \sin \alpha \leq (Xmax/L)$$

$$\cos \beta \times \cos \alpha \leq (Ymax/L)$$

$$0 \leq \alpha \leq 2\pi$$

$$-\pi/2 \leq \beta \leq \pi/2$$

where L is the length of the vector connecting the intersection points (O, A) of the median axis (A3) of the first part (5-1) of the tubing (5) with the first front surface (F1) and with the median axis (A4) of the second part (5-2), α is the angle formed by said vector with said median plane (P), β is the angle formed by said vector with the plane (P1) containing the longitudinal axis (A1) of the fluid box (1) and is orthogonal to said median plane (P), Ymax is the maximum available distance in the vehicle to house the tubing starting from the first front surface (F1) in the direction of the longitudinal axis (A1) of the fluid box (1), and Xmax is the

maximum available distance in the vehicle to house the tubing starting from the origin (O) of said vector in the direction perpendicular to said median plane (P),

α and β are not both zero.

10. Radiator according to any one of the previous claims, in which the fluid box (1) and at least one segment of the tubing (5) adjacent to the fluid box are formed by the inseparable assembly of at least two parts (11, 12).

11. Radiator according to claim 10, in which the fluid box (1) and said segment are formed by the assembly of two parts (11, 12), each of which defines approximately half of the box (1) and half of said segment.

12. Radiator according to claim 10, in which the fluid box (1) and said segment are formed by the assembly of two parts, one of which (13) approximately defines a longitudinal wall of the box (1) and the other (14) defines the rest of the box (1) and said segment.

13. Radiator according to claim 10, in which the fluid box (1) and said segment are formed by the assembly of three parts, two of which (15, 16) approximately define half of the box (1) and the third (17) defines said segment.

14. Radiator according to any one of claims 10 to 13, in which said parts are based on aluminium.

15. Radiator according to any one of the previous claims, in which a second fluid box (2) is provided extending along a longitudinal axis (A2) contained in said median plane (P), the heat exchanger bundle (3) being inserted between the two fluid boxes, one associated with a fluid inlet tubing (5) and the other with a fluid outlet tubing (6), the tubing

associated with the second fluid box (2) also being as defined in one of the previous claims.

16. Heating or air conditioning unit for the passenger compartment of a vehicle comprising a radiator according to one of the previous claims, housed in a box (21, 22, 23, 24), said box being approximately in airtight contact with an area (10) of said first front surface (F1) that is clear due to the fact that the first part (5-1) of the tubing (5) is inclined and/or eccentric.